

ON MONSTROSITIES IN CYPRÆA.

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It will doubtless interest those who make a special study of the genus *Cypræa* if I enumerate some of the monstrosities which occur in the collections of myself, friends and museums. It is very remarkable that so many species inhabiting the Islands of New Caledonia should have their extremities pinched, and abnormally prolonged or rostrated. Many of these have had definite varietal names assigned to them by Dautzenberg and others. I have included dwarf adult specimens which seem to be especially abundant in the Andaman Islands judging by a large consignment which I have examined from that locality. One sometimes meets with shells which have been damaged and repaired by the animal.

C. tigris L. (a) A few examples from Sarawak abnormally flattened and gibbous. (b) Having a strong ridge running longitudinally over the dorsal surface. This seems to be due to one half being more thickly coated with calcium carbonate than the other. (c) Miss A. Foster of Bournemouth possesses two small unusually heavy examples. The dorsal surface is coated with a thick greyish-green enamel. The anterior extremities are pinched up and strongly rostrated.

C. caputserpentis L. Having a small dark brown protuberance upon the base.

C. lurida L. Two specimens from Naples whose extremities are curiously pinched and flattened out, and resembling New Caledonian forms.

C. arabica L. var. *niger* Roberts. This rare black variety from New Caledonia is well known to collectors.

C. arabica L. Mr. C. P. Richards of St. Anstell possesses in his collection a remarkable adult example, with greatly produced spire, the mouth reduced one third its normal length by some hard foreign substance being wedged in and coated over with enamel by the animal, thus altering the shape of the shell evidently to accommodate itself to the new conditions.

C. histrio L. Although many consider this to be a variety of *C. arabica*, yet I am of opinion that it should be raised to spe-

cific rank in future lists, as its differences in form and color are more than varietal. (a) very conical. Indian Ocean.

C. moneta L. var. *barthelymi* Bernardi. Having the extremities constricted and prolonged. A rare variety from New Caledonia.

C. annulus L. I cannot agree with those who consider this to be merely a variety of *C. moneta*, as the average specimen of each is so different in character. One can easily separate the varieties of *annulus* and *moneta* by the aid of the excellent descriptions by S. Raymond Roberts in Tryon's Manual Conch. vol. vii, pp. 177-8.

(a). A dwarf specimen in the Manchester Museum measuring 11 mm.

(b). var. *noumeensis*, Marie. Dautzenberg mentions a specimen from New Caledonia, in the Bordeaux Museum, 30 mm. long.

C. caurica L. This varies greatly in form from being long and narrow, to almost circular. A friend informs me that he has two hundred specimens all differing in shape and color. I have a specimen whose dorsal surface is decorticated so as to resemble that of a *C. tabescens*.

C. caurica L. var. *concaua* Sowb. described in 1870, by Sowerby (from H. Owen's MSS) in his "Thesaurus Conchyliorum." Said to be from the R. Gambia, W. Africa. Is the locality correct for this Indian and Pacific Ocean species.

C. caurica L. var. *nana* Melvill. A dwarf form of var. *oblongata*, Melv.

C. crosa L. var. *chlorizans*. An olive-green dwarf form (18 mm. long—Richards).

C. crosa L. Dwarf type specimen measuring 17 mm.

C. lynx L. var. *caledonica* Crosse. This well-known variety has the extremities pinched and extended, making the shell much narrower than the type.

C. lynx L. Having the aperture curiously widened out on one side.

C. mauritiana, L. (a). Frequently occurs extremely conical in shape. (b). Somewhat resembling *C. mus*, v. *bicornis* in having a distinct lump above posterior extremity. (c). A dwarf shell in my collection from the Andaman Islands measuring 48.5 x 32 mm. This is absolutely adult in every particular, and is probably unique.

C. mus L. var. *bicornis* Sow. In my experience there seem to be many intermediate forms between a good pronounced specimen of this variety and the type.

C. stercoraria L. (a) I have two dwarf specimens of the type measuring 33.5 and 35 mm. (b) Mottled with patches of a paler colour, the whole having a gangrenous appearance, caused by a disease of the mantle.

C. stercoraria L. var. *gibba* Gmel. More conical than the type and having the sides heavily flounced as in *C. arabica*, var. *reticulata*.

C. arabicula Lamarck. A fine example with the outer lip much extended beyond the posterior extremity.

C. algoensis Gray. A very pinched-up humped shell, quite an abnormality.

C. umbilicata Sow. A fine example in Mr. Richard's collection, 103 mm. long, with the outer lip extended into a curious flange on the anterior extremity.

C. pantherina Sol. (a) The outer lip so extended that the animal has contracted it into the shape of a letter V at the posterior extremity. (b) Having a proboscis-like protuberance projecting a quarter of an inch from the posterior end of the dorsal surface at an angle of forty-five degrees, probably caused by a barnacle. (c) Variety *theriaca* Melv. Having a large whitish callosity on the posterior end of the dorsal surface giving the shell a very remarkable appearance. (d) The base markedly convex, giving the shell a rocking-horse-like motion when the ends are pressed against a smooth surface. (e) The dorsal surface strongly corroded by a disease of mantle. Red Sea and Philippines. Some specimens of *C. tigris* collected by Mr. Stanley Gardiner in the Seychelle Islands are similarly attacked.

C. exanthema L. Abnormally flattened on dorsal surface. (Miss Foster).

C. onyx L. var. *adusta* Chemn. A specimen in the Manchester Museum has a barnacle attached, partly enameled over and colored like the rest of the shell.

Dautzenberg in his paper "Sur quelques deformations chez des Cypræa de la Nouvelle-Calédonie" in the Journal de Conchyliologie, vol. liv, has enumerated the following varieties, many of which are subject to melanism :

neglecta, L., var. *marteli*, Dautz.

stolida, L., var. *crossei*, Marie.

mappa, L., var. *montrouzieri*, Dautz.

vitellus, L. var. *subrostrata*, Dautz.

errones, L., var. *compressa*, Dautz.

asellus, L., var. *bougei*, Dautz. 31 mm. long !

clandestina, L., var. *marteli*, Dautz.

punctata, L., var. *rostrata*, Dautz.

cribraria, L., var. *rostrata*, Dautz.

erosa, L., var. *protracta*, Dautz.